

Drosophila, and 3) the polypeptide modulates the effect of heat stress in Drosophila; and

c) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2.

4. **(Thrice Amended)** A kit useful for the detection of a polypeptide, the kit comprising a carrier containing one or more containers comprising a first container containing an antibody that selectively binds to a polypeptide selected from the group consisting of:

a) a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes in 0.1 x SSC at 68°C to a nucleic acid molecule comprising SEQ ID NO:1, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in Drosophila, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in Drosophila;

b) a polypeptide comprising an amino acid sequence which is at least 85% homologous to the amino acid sequence of SEQ ID NO:2, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in Drosophila, and 3) the polypeptide modulates the effect of heat stress in Drosophila; and

c) a polypeptide comprising amino acid residues 1 to 200 of SEQ ID NO:2.

18. **(Amended)** An isolated antibody produced by immunizing an

forth in SEQ ID NO:2, which antibody specifically binds to the polypeptide.

19. (**Twice Amended**) An isolated antibody that selectively binds the hydrophilic domain of an mth polypeptide between hydrophobic domains five and six of SEQ ID NO:2.

20. (**Amended**) An isolated antibody that selectively binds to a polypeptide comprising amino acids 407-420 of SEQ ID NO:2.

21. (**Twice Amended**) A kit comprising an antibody which selectively binds to a polypeptide selected from the group consisting of:

a) a fragment of the amino acid sequence of SEQ ID NO:2, wherein 1) the fragment is a GPCR, 2) failure to express the fragment results in embryonic lethality in *Drosophila*, and 3) the fragment modulates the effect of heat stress in *Drosophila*;

b) a polypeptide comprising the amino acid sequence of SEQ ID NO:2, wherein the polypeptide is encoded by a nucleic acid molecule which hybridizes in 0.1 x SSC at 68°C to a nucleic acid molecule comprising SEQ ID NO:1, wherein 1) the polypeptide is a GPCR, 2) failure to express the polypeptide results in embryonic lethality in *Drosophila*, and 3) hypomorphic expression of the polypeptide increases resistance to heat stress in *Drosophila*; and

c) a polypeptide comprising an amino acid sequence which is at least 85% homologous to the amino acid sequence of SEQ ID NO:2, wherein 1) the polypeptide is a GPCR, 2) failure to

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and instructions for use.--